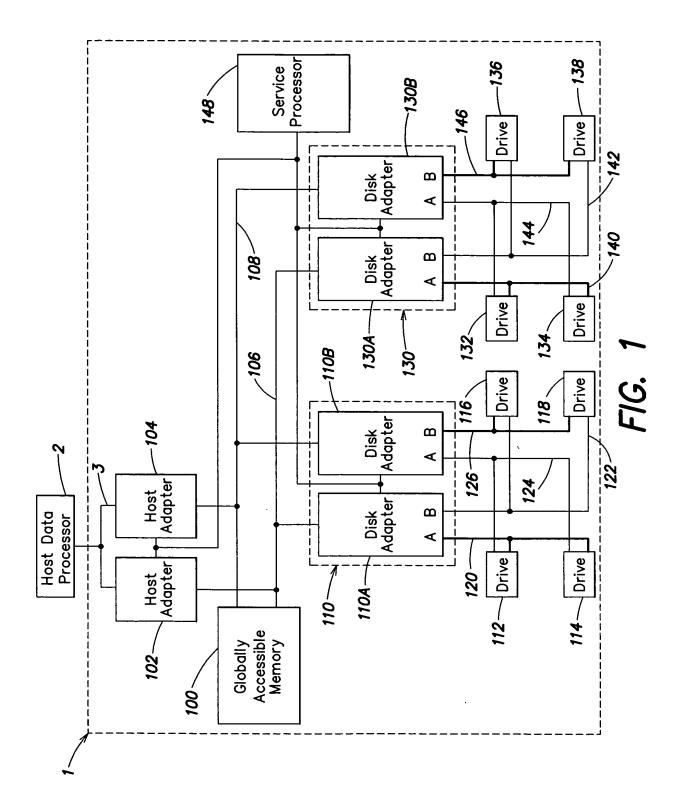
Entitled: METHOD AND APPARATUS FOR MANAGING THE DYNAMIC ASSIGNMENT RESOURCES IN A DATA STORAGE SYSTEM

Page 1 of 11



Date of Deposit: March 24, 2004

Entitled: METHOD AND APPARATUS FOR MANAGING THE DYNAMIC ASSIGNMENT RESOURCES IN A DATA STORAGE

SYSTEM

Page 2 of 11

Docket No.: E0295.70041US01

## LOCALLY STORED STATIC CONFIGURATION TABLES

Disk Adapter 110A

DA—Specific Target Number	Logical Device Volume# (DV#)	Mirror Number	Hot Spare Flag
0 (Drive 112)	DV0	M1	No
1 (Drive 112)	DV1	M1	No
2 (Drive 114)	DV2	M2	No
3 (Drive 114)	D/C	D/C	Yes
/4 (Drive 116)/	/////Dývó//////	//M2///	No//
5 (Drive 116)	/////DV1////	//M2///	No
6 (Drive 118)	////pV2/////		//No//
7 (Drive 118)	/////D/C	//D/C//	Yes

## FIG. 2A

(Prior Art)

Disk Adapter 110B

	Biolit Adaptor 1105		
DA-Specific Target Number	Logical Device Volume# (DV#)	Mirror Number	Hot Spare Flag
0 (Drive 116)	DVO	M2	No
1 (Drive 116)	DV1	M2	No
2 (Drive 118)	DV2	М1	No
3 (Drive 118)	D/C	D/C	Yes
4 (Drive 112)	/////DVÓ//////	M1//	//No///
5 (Drive 112)	/////Dý1/////	M1//	No//
6 (Drive 114)	////pv2/////	M2//	//No///
7 (Drive 114)	/////oj/¢//////	//D/C//	//Yes///

FIG. 2B

Entitled: METHOD AND APPARATUS FOR MANAGING THE DYNAMIC ASSIGNMENT RESOURCES IN A DATA

STORAGE SYSTEM

Page 3 of 11

Docket No.: E0295.70041US01

## LOCALLY STORED STATIC CONFIGURATION TABLES

Logical Device Volume (DV#)	BCV Assignment Flag	Mirror Mask (# of Mirrors)
DVO	No	2-Way
DV1	No	2-Way
DV2	Yes	2-Way

Date of Deposit: March 24, 2004

Entitled: METHOD AND APPARATUS FOR MANAGING THE DYNAMIC ASSIGNMENT RESOURCES IN A DATA STORAGE
SYSTEM
Page 4 of 11
Docket No.: E0295.70041US01

**FIG. 4A** (Prior Art)

DC/BCV Flags			Dynamically Assigned	Dynamically Assigned
#\O	DVO	DV1	Dynamically Assigned	Dynamically Assigned
Mirror Number			Dynamically Assigned	Dynamically Assigned
Mirror Mask (# of Mirrors)	2—Way (May be Increased)	2—Way (May be Increased)	2—Way (May be Increased)	Dynamically Assigned
DA-Specific arget Number	0	1	2	٤

LOCALLY STORED DYNAMIC CONFIGURATION TABLE

Disk Adapter 110A

			<b>H</b>		
	DC/BCV Flags			Dynamically Assigned	Dynamically Assigned
	#^d	DVO	DV1	Dynamically Assigned	Dynamically Assigned
Disk Adapter 110B	Mirror Number			Dynamically Assigned	Dynamically Assigned
	Mirror Mask (# of Mirrors)	2—Way (May be Increased)	2—Way (May be Increased)	2—Way (May be Increased)	Dynamically Assigned
	DA-Specific Target Number	0	1	2	3

Entitled: METHOD AND APPARATUS FOR MANAGING THE DYNAMIC ASSIGNMENT RESOURCES IN A DATA STORAGE SYSTEM

Page 5 of 11

GLOBALLY ACCESSIBLE DYNAMIC CONFIGURATION TABLE

DC/BCV Flags			Dynamically Assigned	Dynamically Assigned			Dynamically Assigned	Dynamically Assigned
Logical Device Volume# (DV#)	DVO	DV1	Dynamically Assigned	Dynamically Assigned	DVO	DV1	Dynamically Assigned	Dynamically Assigned
Mirror Number			Dynamically Assigned	Dynamically Assigned			Dynamically Assigned	Dynamically Assigned
Mirror Mask (# of Mirrors)	2-Way (May be Increased)	2-Way (May be Increased)	2-Way (May be Increased)	Dynamically Assigned	2-Way (May be Increased)	2-Way (May be increased)	2-Way (May be Increased)	Dynamically Assigned
DA-Specific Target Number	0	1	2	3	0	1	2	3
Disk Adapter # (DA#)	DA 110A	DA 110A	DA 110A	DA 110A	DA 110B	DA 110B	DA 110B	DA 110B

Date of Deposit: March 24, 2004

Entitled: METHOD AND APPARATUS FOR MANAGING THE DYNAMIC ASSIGNMENT RESOURCES IN A DATA STORAGE

SYSTEM

Page 6 of 11

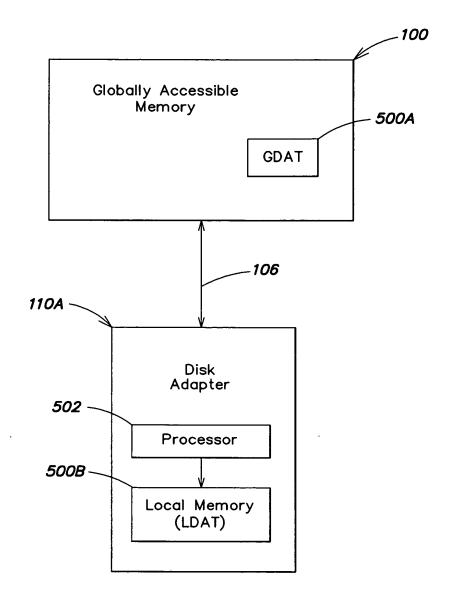


FIG. 6

Date of Deposit: March 24, 2004

Entitled: METHOD AND APPARATUS FOR MANAGING THE DYNAMIC ASSIGNMENT RESOURCES IN A DATA

STORAGE SYSTEM

Page 7 of 11

GLOBAL DYNAMIC ASSIGNMENT TABLE (GDAT)

	_							<u> </u>	Ī	1
	Byte 7	Hot Spare Target Number			e Target	6 & 7)	0/c	3	8	
lory)	Byte 6	Hot Target			Hot Spare Target	(Bytes 6 & 7)	o'	.,	. ,	
y Accessible Merr	Byte 5	Primary/Secondary DC/BCV DV#		BLE (GDAT) ints)	(Byte 1)	Hot Spare Director Number	D/C	DA 110A	DA 110B	
in Globally Acce	Byte 4	imary/Secc D	2	GNMENT TA e Assignme	or Number	Dire				-
(Stored Locally With Each Disk Adapter and in Globally Accessible Memory)	Byte 3	DC/BCV Pr Flags	FIG. 7	GLOBAL DYNAMIC ASSIGNMENT TABLE (GDAT) (With Hot Spare Assignments)	Spare State/Director Number (Byte 1)	Hot Spare Active Flag	o N	Yes	Yes	
ocally With Each	Byte 2	Mirror/Mask Number		GL0B	Hot S	Hot Spare Mirror Number	D/C	M3	M3	
(Stored L	Byte 1	Hot Spare State/Director Number	501		J Device	(DV#) H	DVO	DV1	DV2	·
	Byte 0	DC/BCV Flags			Logico	5 	٥			

Entitled: METHOD AND APPARATUS FOR MANAGING THE DYNAMIC ASSIGNMENT RESOURCES IN A DATA STORAGE

**SYSTEM** Page 8 of 11

Docket No.: E0295.70041US01

GLOBAL DYNAMIC ASSIGNMENT TABLE (GDAT) (With DC/BCV Devices in Use) Primary (Non-BC/BCV) DV# Entries

Mirror Mask Number (Byte 2)	Sec. Sec. DV#  Shed (Byte 0) Mirror Mirror Mirror Mirror Mumber Number	2/0 D/C D/C 0/C	res D/C D/C DV2	FIG 94
		0 N	Yes	
Logical	Data Volume# (DV#)	DVO	DV1	200

			(Bytes 4	IVO
S			Sec. Mirror Number	M1
v) Uv# Entrie	Mirror Mask Number	(Byte 2)	Prim. Mirror Number	EW.
secondary (bc/bcv) Dv# Entries	Mirror		Not Active Mirror Mask	M2
)ac			DC/BCV Connection Established (Byte 0)	Yes
		Logical	Data Volume# (DV#)	DV2

500

DV2

Entitled: METHOD AND APPARATUS FOR MANAGING THE DYNAMIC ASSIGNMENT RESOURCES IN A DATA

STORAGE SYSTEM

Page 9 of 11

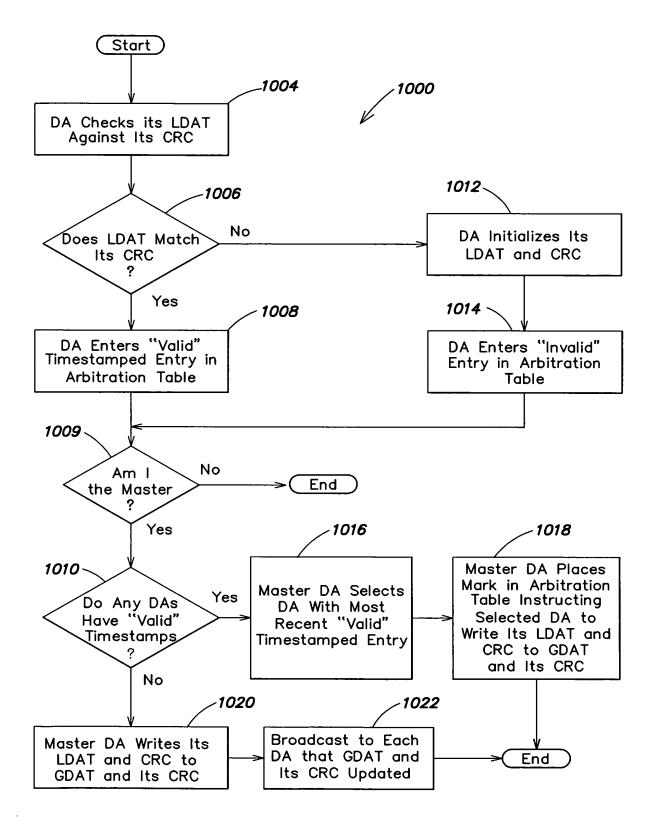
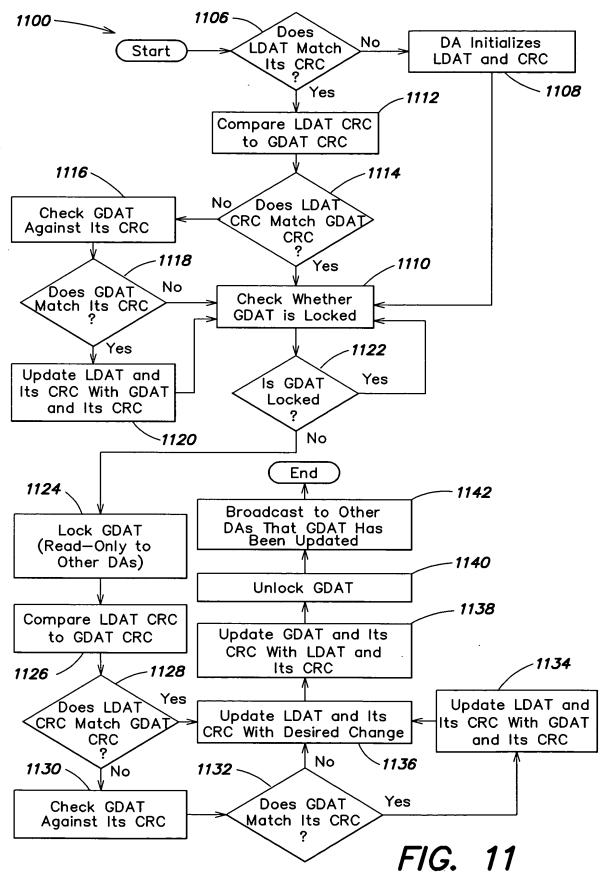


FIG. 10

Entitled: METHOD AND APPARATUS FOR MANAGING THE DYNAMIC ASSIGNMENT RESOURCES IN A DATA STORAGE

SYSTEM

Page 10 of 11



Entitled: METHOD AND APPARATUS FOR MANAGING THE DYNAMIC ASSIGNMENT RESOURCES IN A DATA

STORAGE SYSTEM

Page 11 of 11

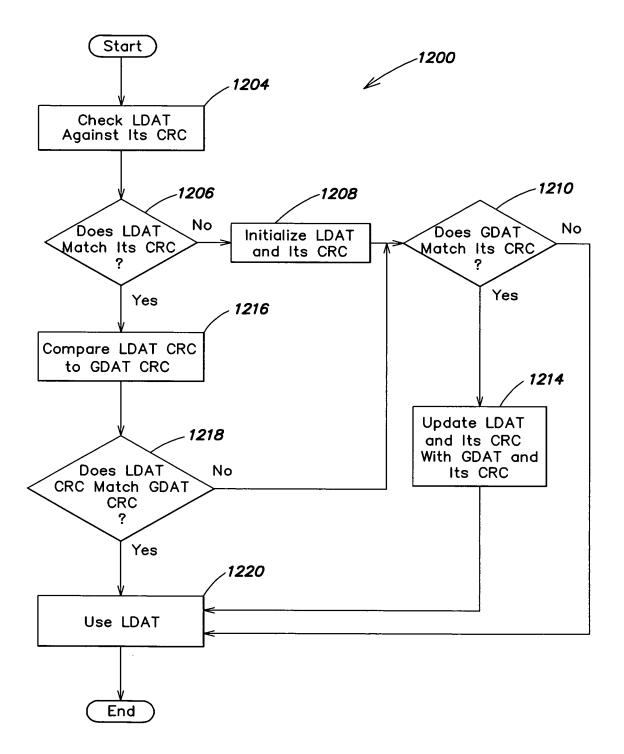


FIG. 12